GENOM.032VPC PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

(INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY)

Applicant	:	GENEOHM SCIENCES, INC.
PCT Appln. No.	:	PCT/US04/27412
Filed	:	23 AUG 2004 (23.08.2004)
Title	:	OLIGONUCLEOTIDE SEQUESTERING AGENTS AND METHODS OF USE
Examiner	:	James Martinell

RESPONSE TO WRITTEN OPINION WITH DEMAND FOR PRELIMINARY EXAMINATION

Mail Stop PCT
Attention: ISA/US
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Attention: International Preliminary Examining Authority

Dear Sir:

This letter is in response to the Written Opinion of the International Searching Authority mailed 25 July 2005 in connection with the above-identified PCT application. A Demand for Preliminary Examination is also being filed herewith. Accordingly, Applicants respectfully request that the Examiner consider the following remarks.

REMARKS

Novelty Under PCT Article 33(2)

In the Written Opinion, the Examiner asserts that claims 1-9, 12, 13, 15, 16, 18, 19, 22-24, 26, 29-37, 39-42, 64-73, 76-83, 95-102, 105-112, 114-119, 122-126, 129-134, 137-141, and 144-150 lack novelty under PCT Article 33(2) in view of PCT Publication No: WO 02/077256 ("Molecular Staging"). In particular, the Examiner asserts that the

Molecular Staging reference anticipates the subject matter set out in the above-listed claims because it allegedly discloses molecular hybridization methods that utilize nucleic acid probes that contain two regions that bind to the target, are circularized and amplified via rolling circle amplification, contain tags and may contain a promoter for the detection of RNA transcribed from the probe. Applicants respectfully disagree for the following reasons.

Applicants have developed methods for hybridizing nucleic acids in the presence of a sequestering agent. The methods of claims 1-9, 12, 13, 15, 16, 18, 19, 22-24, 26, 29-37, 39-42, 64-73, 76-83, 95-102, 105-112, 114-119, 122-126, 129-134, 137-141, and 144-150 utilize nucleic acids that are complementary, at least in part, to a target nucleic acid. The nucleic acids may be present on different molecules or they may be present together in the same molecule (for example a probe that circularizes when the ends are hybridized to the target nucleic acid). Hybridization to the target sequence of at least one of the nucleic acids is conducted in the presence of a sequestering agent. Sequestering agents are molecules that are capable of specifically interacting with one or more of the nucleic acids complementary to the target sequence, thereby reducing the likelihood that the complementary nucleic acids will hybridize to a non-target nucleic acid.

Applicants maintain that the methods recited in claims 1-9, 12, 13, 15, 16, 18, 19, 22-24, 26, 29-37, 39-42, 64-73, 76-83, 95-102, 105-112, 114-119, 122-126, 129-134, 137-141, and 144-150 are novel because Molecular Staging does not teach all of the elements of any of the above-listed claims. For example, each of the above-listed claims recites a step of providing a sequestering agent. Molecular Staging does not disclose the use of a sequestering agent. Molecular Staging only discloses that non-templated ligation is reduced via intramolecular stem structures. The intramolecular stem structures disclosed in Molecular Staging include hairpin structures at one or both ends of a complementary probe (Molecular Staging, Figure 4), that can also serve as a means to eliminate unused probes via self-primed suicide extension (Molecular Staging, Figure 2). Because Molecular Staging does not teach every element of any of claims 1-9, 12, 13, 15, 16, 18, 19, 22-24, 26, 29-37, 39-42, 64-73, 76-83, 95-102, 105-112, 114-119, 122-126, 129-134, 137-141, and 144-150, these claims are novel over this reference.

Inventive Step Under PCT Article 33(2)-(3)

The Examiner also asserts that claims 1-9, 12, 13, 15, 16, 18, 19, 22-24, 26, 29-37, 39-42, 64-73, 76-83, 95-102, 105-112, 114-119, 122-126, 129-134, 137-141, and 144-150 lack an inventive step in view of the Molecular Staging reference. Presumably, the Examiner alleges a negative opinion as to inventive step in view of the previous assertion that the claims lack novelty. Reiterating the above remarks with regard to novelty, Applicants respectfully submit that Molecular Staging does not teach all the required claim limitations. Since the Examiner has provided no secondary reference that would supply the missing element, Applicants respectfully submit that claims 1-9, 12, 13, 15, 16, 18, 19, 22-24, 26, 29-37, 39-42, 64-73, 76-83, 95-102, 105-112, 114-119, 122-126, 129-134, 137-141, and 144-150 are inventive.

In view of the foregoing remarks, Applicants respectfully request that the Examiner withdraw his rejection of claims 1-9, 12, 13, 15, 16, 18, 19, 22-24, 26, 29-37, 39-42, 64-73, 76-83, 95-102, 105-112, 114-119, 122-126, 129-134, 137-141, and 144-150 under PCT Articles 33(2) and 33(3) and issue a favorable International Preliminary Report of Patentability.

Applicants believe that no fees are required in connection with this response; however, if fees are deemed necessary, please charge any additional fees or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: Oct. 25, 2005

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